

[www.yes.com](http://www.yes.com)

卷之四

F1 G.  
 backups will exchange network  
 for customer's

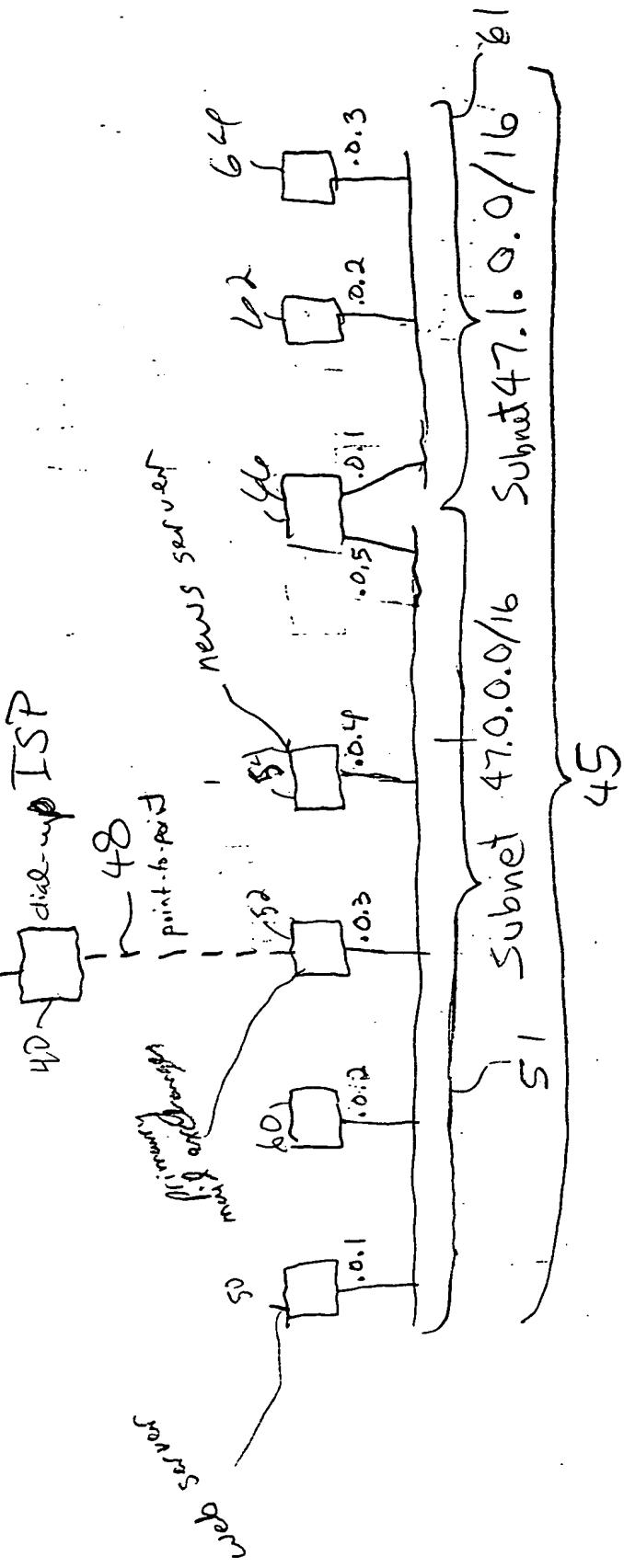
34

Internet

30

primary master  
 name server  
 for customer.com Zone

$$F_1 G_1$$



**FIGURE 1A**

NAME	TYPE	CLASS	RDATA
customer.com.	SOA	IN	mname=ns1.nsprovider.com.
customer.com.	NS	IN	ns1.nsprovider.com.
mail.customer.com.	MX	IN	preference=0 exchange=dopey.customer.com.
mail.customer.com.	MX	IN	preference=10 exchange=smtp40.mailprovider.com.
www.customer.com.	CNAME	IN	grumpy.customer.com.
news.customer.com.	CNAME	IN	bashful.customer.com.
gw.customer.com.	CNAME	IN	dopey.customer.com.
grumpy.customer.com.	A	IN	47.0.0.1
sneezy.customer.com.	A	IN	47.0.0.2
dopey.customer.com.	A	IN	47.0.0.3
bashful.customer.com.	A	IN	47.0.0.4
happy.customer.com.	A	IN	47.0.0.5
happy.customer.com.	A	IN	47.1.0.1
hewey.customer.com.	A	IN	47.1.0.2
dewey.customer.com.	A	IN	47.1.0.3

**FIGURE 1B - 1**

NAME	TYPE	CLASS	RDATA
customer.com.	DTG_ID	IN	id=3711 rtstValid=false RTST=<undefined>
grumpy.customer.com.	DTG_INFO	IN	DTG identifier=3711 original RR type=A original RDATA length=4 original RDATA=47.0.0.1 inactive response type=1 text length=26 alternate RDATA length=<undefined> optional text=The network is unavailable optional alternate RR TTL=<undefined> optional alternate RDATA=<undefined>
sneezy.customer.com.	DTG_INFO	IN	DTG identifier=3711 original RR type=A original RDATA length=4 original RDATA=47.0.0.2 inactive response type=1 text length=0 alternate RDATA length=<undefined> optional text=<undefined> optional alternate RR TTL=<undefined> optional alternate RDATA=<undefined>
dopey.customer.com.	DTG_INFO	IN	DTG identifier=3711 original RR type=A original RDATA length=4 original RDATA=47.0.0.3 inactive response type=0 text length=0 alternate RDATA length=<undefined> optional text=<undefined> optional alternate RR TTL=<undefined> optional alternate RDATA=<undefined>

**FIGURE 1B - 2**

NAME	TYPE	CLASS	RDATA
bashful.customer.com.	DTG_INFO	IN	DTG identifier=3711 original RR type=A original RDATA length=4 original RDATA=47.0.0.4 inactive response type=2 text length=<undefined> alternate RDATA length=4 optional text=<undefined> optional alternate RR TTL=3600 optional alternate RDATA=128.83.17.101
happy.customer.com.	DTG_INFO	IN	DTG identifier=3711 original RR type=A original RDATA length=4 original RDATA=47.0.0.5 inactive response type=0 text length=0 alternate RDATA length=<undefined> optional text=<undefined> optional alternate RR TTL=<undefined> optional alternate RDATA=<undefined>
happy.customer.com.	DTG_INFO	IN	DTG identifier=3711 original RR type=A original RDATA length=4 original RDATA=47.1.0.1 inactive response type=0 text length=0 alternate RDATA length=<undefined> optional text=<undefined> optional alternate RR TTL=<undefined> optional alternate RDATA=<undefined>
hewey.customer.com.	DTG_INFO	IN	DTG identifier=3711 original RR type=A original RDATA length=4 original RDATA=47.1.0.2 inactive response type=0 text length=0 alternate RDATA length=<undefined> optional text=<undefined> optional alternate RR TTL=<undefined> optional alternate RDATA=<undefined>

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**FIGURE 1B - 3**

NAME	TYPE	CLASS	RDATA
dewey.customer.com.	DTG_INFO	IN	DTG identifier=3711 original RR type=A original RDATA length= original RDATA=47.1.0.3 inactive response type=0 text length=0 alternate RDATA length=<undefined> optional text=<undefined> optional alternate RR TTL=<undefined> optional alternate RDATA=<undefined>
mail.customer.com.	DTG_INFO	IN	DTG identifier=3711 original RR type=MX original RDATA length=22 original RDATA= preference=0 exchange=dopey.customer.com. inactive response type=0 text length=0 alternate RDATA length=<undefined> optional text=<undefined> optional alternate RR TTL=<undefined> optional alternate RDATA=<undefined>

200 →

200 → 200 → 200 → 200 → 200 → 200

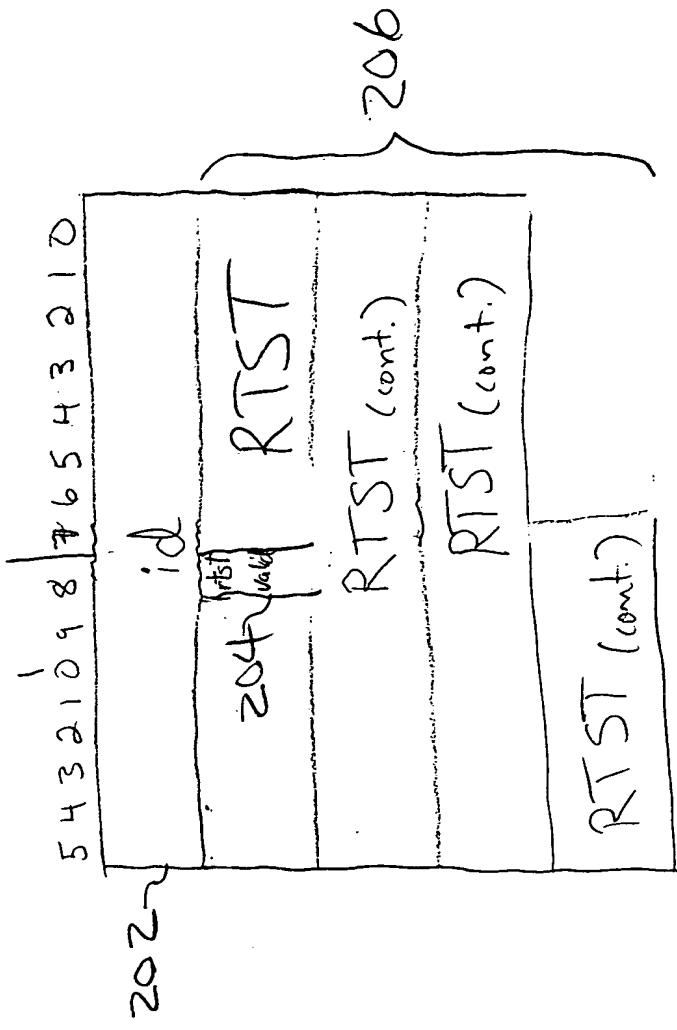


Figure 2

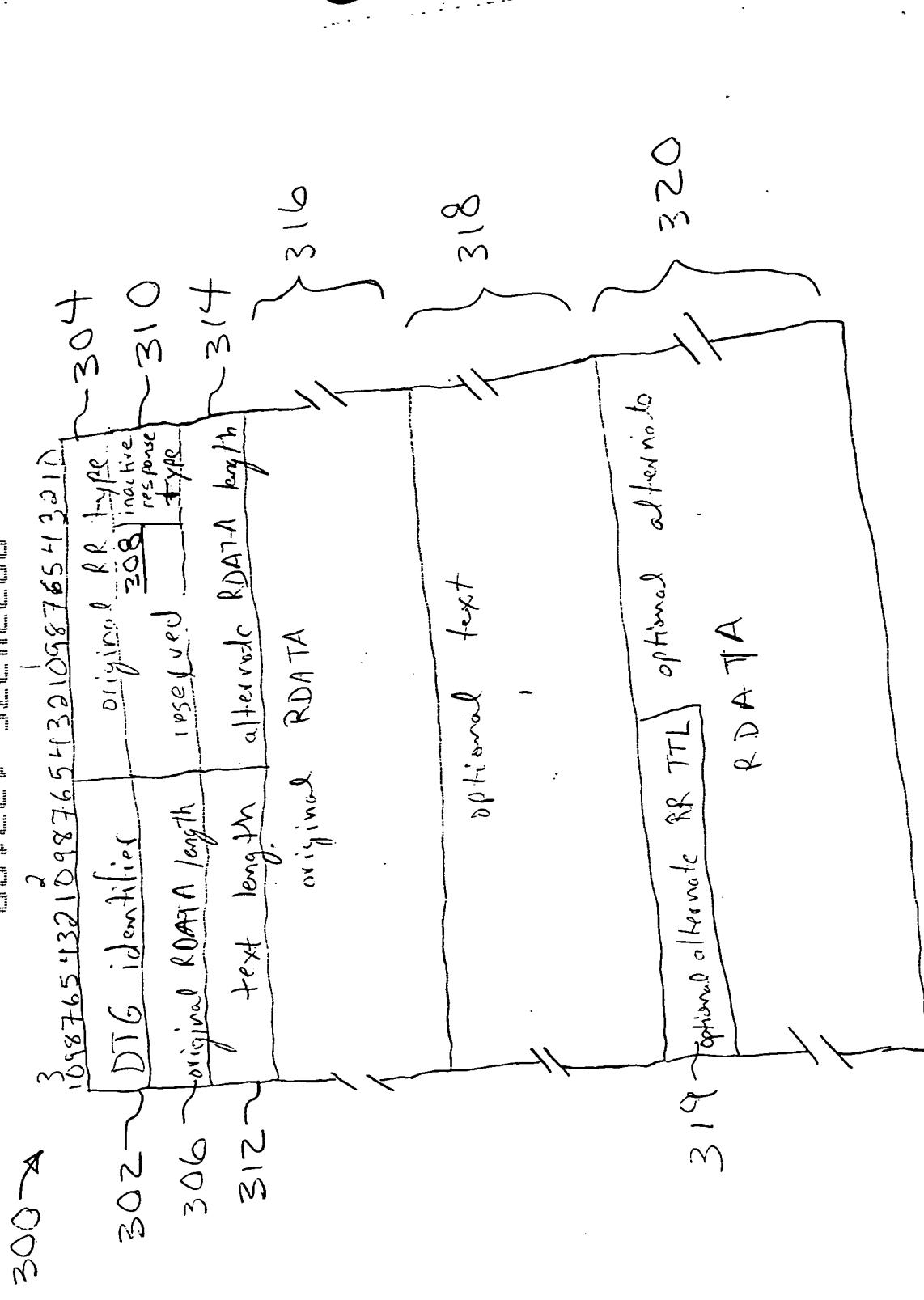


Figure 3

# RTST RDATA Format

7654321098765432109876543210<sup>9</sup>8765432109876543210  
400

time

FIG. 4

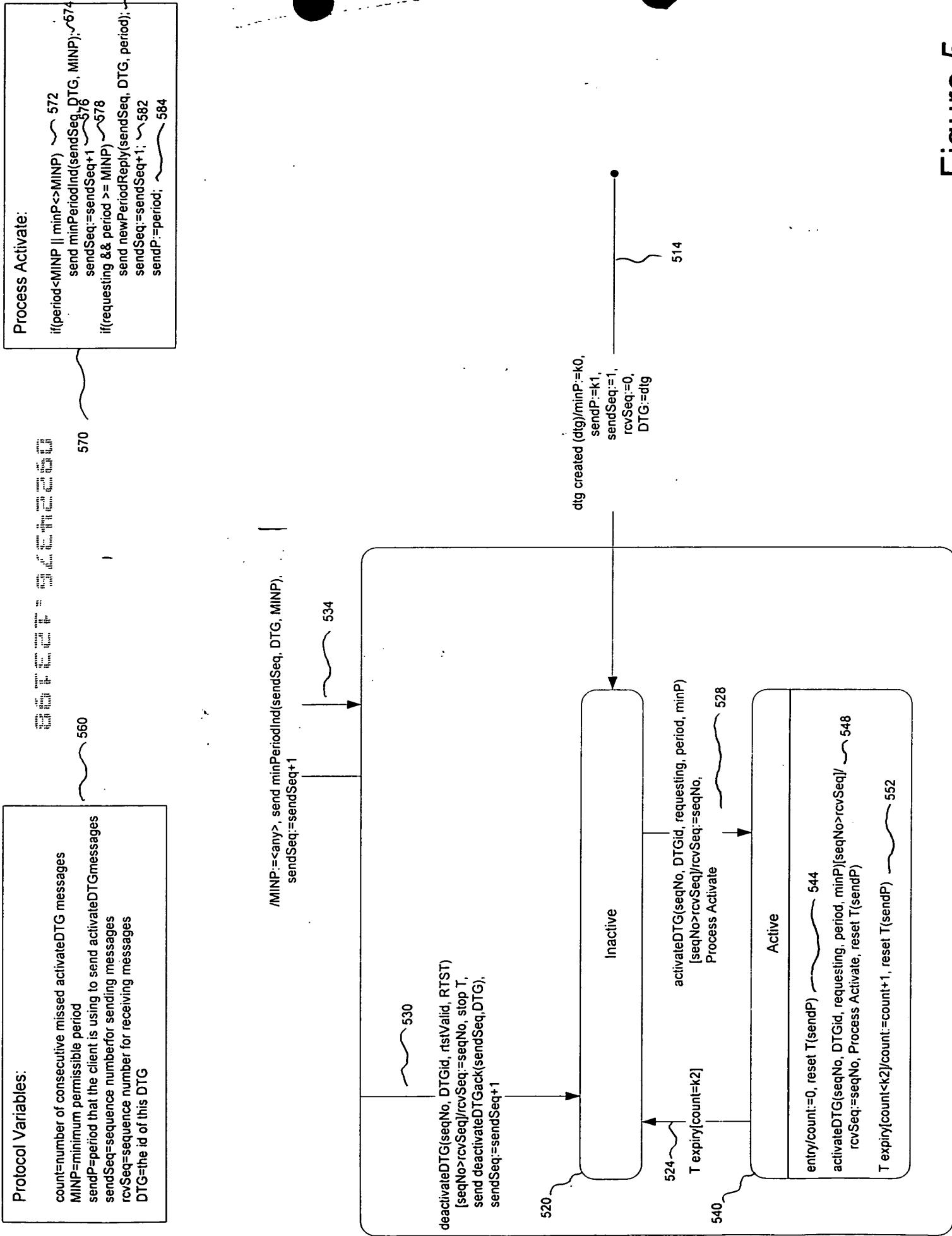


Figure 5

# Figure 6

660 ~

614

create dtg (dtgid), MINP:=k0, curP:=k1, sendSeq:=1, rcvSeq:=0,  
DTG:=dtg, send activateDTG (sendSeq, false, curP, MINP),  
start T(curP), sendSeq:=sendSeq+1

UPR(r)[r<MINP]/-

634

PeriodRequestAcknowledged

T expiry/send activatedDTG(sendSeq, DTG, false, curP, MINP),  
reset T(curP)

minPeriodInd(seqNo, DTGid, minP)[seqNo>rcvSeq] 624

curP:=max(curP,minP),  
MINP:=minP, rcvSeq:=seqNo

newPeriodReply(seqNo, DTGid, newPeriod)[seqNo>rcvSeq]  
rcvSeq:=seqNo

UPR(r)[r==MINP && r==curP]/-

625

628

UPR(r)[r>MINP && r> curP]/reqP:=r,  
send activateDTG(sendSeq, DTG, true, reqP, MINP),  
sendSeq:=sendSeq+1, reset T(min(k3,curP))

minPeriodInd(seqNo, DTGid, minP)[seqNo>rcvSeq && minP>reqP/  
rcvSeq:=seqNo, curP:=max(curP,minP),  
MINP:=minP]

610

RequestingNewPeriod

T expiry/send activatedDTG(sendSeq, DTG, true, reqP, MINP),  
sendSeq:=sendSeq+1, reset T(min(k3,curP))

minPeriodInd(seqNo, DTGid, minP)[seqNo>rcvSeq && minP<reqP/  
curP:=max(curP,minP),  
MINP:=minP, rcvSeq:=seqNo]

UPR(r)[r>MINP]/reqP:=r

newPeriodReply(seqNo, DTGid, newPeriod)[seqNo>rcvSeq && newPeriod<>reqP/  
rcvSeq:=seqNo]

652

User Primitives:  
UPR=user request  
for a new period  
UDR=user request  
to deactivate DTG

Protocol Variables:  
curP=current period  
reqP=requested period  
MINP=last reported  
minimum period  
from server  
sendSeq=sequence  
number for sending  
rcvSeq=sequence  
number for receiving  
DTG=the id of this DTG

639

UDR(

rst, valid,  
rst)

7 expiry  
7

632

Deactivating

entry/send  
deactivatedDTG(

sendSeq,  
DTG, rst\_valid,  
rst),  
reset T(k4)

636

deactivateDTGack(  
seqNo,  
DTGid)  
[rcvSeq>seqNo]

639